

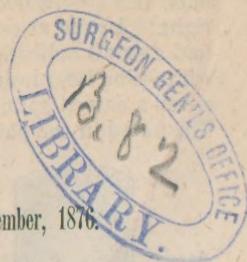
A NEW METHOD IN CLUB FOOT,

BY

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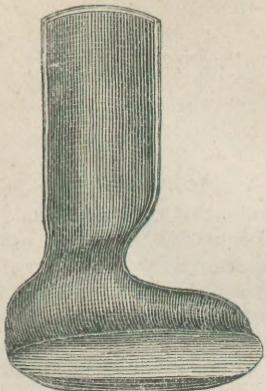


Nearly twenty years ago the writer found himself dissatisfied with the dictum of the surgical authorities in the treatment of congenital talipes. Upon the question at what age it is best to begin the treatment writers differ widely, fixing the period some at three months, some at four, five, six, and so on; very few choosing an earlier age than one month. To my own apprehension it seems that there could scarcely be a more favorable condition of the tissues of a club foot for the correction of the deformity than the soft and plastic state in which they are found at birth. The muscles are then soft and yielding, the foot can be turned by the hand into its proper relations with the leg with the expenditure of very slight force. At this time the functions of the foot are as yet in abeyance, and the member may be viewed as a passive and useless appendage of the body, its role for the time being simply rest and growth. These seemed to be the most favorable conditions for successful moulding of the distorted foot into proper relations with the adjoining leg. I, therefore said to myself, "Now, without an hour's delay, is the time to treat congenital talipes."

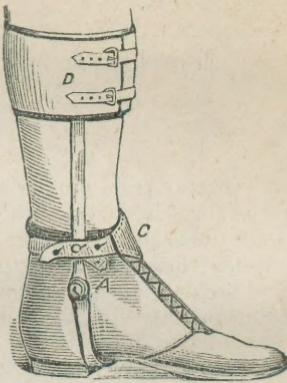
Shall the foot be put *at once* into natural position? The authorities said, and still say, "No; it should be done gradually." I could not thus see it. The force required to correct the mal-position at once, could not, ordinarily, be at all considerable in the newly born, and I found it difficult to perceive any substantial objection to the immediate and complete correction of the deformity. But how is it to be done? The suggestion of means seemed to me not at all difficult. In the soft and plastic state of the foot of the neonatus we need only a properly fashioned mould of light, and, at the same time, unyielding material, and a simple roller bandage, and the thing is done. Soft pine presents itself as a suitable

material out of which to construct the mould, it being light and strong, not liable to warp or become itself distorted, and being easily wrought into any desired form.

Whilst turning this matter in my mind, I was called to attend Mrs. J. in her accouchement, which, being slow and difficult, was terminated by the use of forceps. The child was born with a decided varus of one foot, the latter presenting quite an acute angle with the leg, and the great toe almost touching. This condition of things greatly distressed the parents, but I consoled them with the assurance that all should be made right. I went at once from the lying-in chamber to my office, where I had a small collection of carpenters' tools. From a thick piece of soft, white-pine board, and by the use of a chisel and gauge, I very soon prepared a carved splint, such as is sent with this communication to be illustrated in the cut No. 1.



CUT NO. 1.



CUT NO. 2.

This splint consisted of two pieces glued together—*i. e.*, a flat piece for the sole of the foot, and a carved piece into which the inner border of the foot, the ankle, and the inner one third of the leg were received. It was carved upon its inner face in such manner as to fit quite smoothly the surface to which it was to be applied, and make everywhere as equal and uniform pressure as practicable. The outer surface was shaved down by the chisel to a shell conforming somewhat to the form of the interior, removing as much of the wood as was compatible with proper strength and firmness of the splint. The instep was cut away a little, as seen in the cut, so as to enable the bandage to bring the heel well down into its place in the splint. The whole was then smoothly sand-papered, and received a thick coating of varnish.

Upon the following morning the foot and leg were placed in the carved splint, a thickness of soft cotton-flannel intervening, and the whole enveloped closely in a roller bandage. The splint brought the foot at once into its normal relations with the leg, and held it securely there. Each

day subsequently the apparatus was removed, and re-applied after bathing the limb. The nurse was instructed in this, and performed her part most admirably. As the child grew, it became necessary to prepare a splint of larger size, and still a third of yet larger dimensions. After the first month, a closely fitting stocking, knit for the purpose, took the place of the roller bandage, and held the foot in the splint satisfactorily. At the expiration of four months the apparatus was dispensed with entirely, as the liberated foot retained its normal relations without need of restraint. In a word, the child walked in due time, wore ordinary shoes, waxed strong, and is now grown to womanhood. From the age of four months until now we have seen nothing to remind us of the original deformity, and I doubt if the young lady herself to-day knows that there ever had been a deformity.

So satisfactory was the result in this case, I have employed the device since in the few cases of congenital talipes which have fallen under my care at a very tender age, and with a success which could not be exceeded by any treatment or apparatus of which I have knowledge.

Emboldened and encouraged in these tender subjects, I have for ten years past employed the same carved splint in the treatment of club foot in children of more mature growth. In these, however, it has been necessary to free the foot completely by division of resisting tendons, and, if need be, the plantar fascia also, in order to admit of the foot being moulded properly into the splint at first, and for years I hesitated to do this, impressed as my mind was with the danger of non-union of the tendons if the gap between the severed ends was widened, by placing the foot at once into its proper relations. This apprehension, fixed upon my mind by the teaching of Mr. Benjamin Brodhurst, and his colleagues, of the Orthopædic Hospital of London, in 1859, interdicted all further progress with me until, emerging from the literary darkness of the late civil war, I found encouragement in Gross' Surgery to dispel the fear of non-union, and go on to bind the severed tendons at once into my carved splint with the roller, in the same way as I had done in the newly born.

My method of treatment of cases of this class is, after dividing the resisting structures and forcibly limbering the foot, to put it at once into the carved splint which is removed and re-applied daily, for two to four weeks, or until the foot will retain its normal position with slight pressure. Procuring now a rather stout pair of ordinary shoes with low and broad heels, I adjust the simple irons upon them, as shown in the cut No. 2. These irons have a joint upon either side at the ankle, and are cushioned and furnished with straps for the leg, and rivited to the sole of the shoe. This work is also done in my office, giving me the advantage of a good and satisfactory adjustment to each case, without the intervention of a distant manufacturer.

The shoes are worn during the day; at night the foot is bathed and bandaged again into the carved splint, which is continued at night until the foot retains its normal direction without restraint. The results of the practice in my hands is all that I could desire. In no case have I had any trouble with non-union of tendons, nor do I apprehend now

any such result from bringing the foot at once into position after tenotomy.

The advantages offered by this method seem to me clear, and unless further experience shall develop objections which I have not thus far encountered, I shall continue its use in the treatment of the club foot of children, to the exclusion of all other methods. These advantages I conceive to be: *First*—In the neonatus no time is lost in putting the contracted muscles at once and fully upon the stretch, at the most favorable time for their proper elongation. *Second*—When tenotomy is done, and the contracted bands are fully relieved, the foot comes at once into proper position, prior to the union of the tendons, thus ensuring a proper elongation of the latter. *Third*—The carved splint being a suitable mould for the foot in its normal relations, the ability to bandage the latter properly in the splint becomes an index of the sufficiency of the tenotomy at the time of operating. *Fourth*—The cheapness of the apparatus and its simplicity. *Fifth*—The ease of its manufacture by unskilled hands. *Sixth*—By no means the least of its advantages, the fact that we are enabled to fit the apparatus directly to the case without the intervention of an instrument maker, and the liability to error in the transmission of measurements and models of the foot.

I have taken the liberty of designating this a new method in club foot. With myself, the suggestions are certainly original, but my knowledge of the literature of the subject is not sufficiently extensive to give me assurance that I have not been anticipated by others. If such should be the case, I beg to be both corrected and pardoned.

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